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Serial No.: 09/675,208

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Amendment Filed on:

HEREWITH

IN THE CLAIMS

Claims 17-21 and 27-30 (Cancelled).

- (1) action and substrate specificity: the raffinose synthase produces raffinose from sucrose and galactinol;
- (2) optimum pH: the raffinose synthase has an optimum pH of about 6 to 8;
- (3) optimum temperature: the raffinose synthase has an optimum temperature of about 35 to 40°C;
- (4) molecular weight: the raffinose synthase has:
- (i) a molecular weight of about 75 kDa to 95 kDa estimated by gel filtration chromatography;
 - (ii) a molecular weight of about 90 kDa to 100 kDa estimated by polyacrylamide gel electrophoresis; and
 - (iii) a molecular weight of about 90 kDa to 100 kDa estimated by SDS-polyacrylamide gel electrophoresis under a reduced condition; and
- (5) inhibition: the raffinose synthase is inhibited by iodoacetamide, N-ethylmaleimide, and myo-inositol. See Claim 13.

The present invention also relates to an isolated DNA encoding a raffinose synthase, wherein the DNA is hybridizable under stringent conditions to a DNA comprising nucleotide numbers 56 to 2407 of SEQ ID NO: 4. See Claim 15.

The present invention also relates to an isolated DNA encoding a raffinose synthase, wherein the DNA is obtained from a dicotyledonous plant. See Claim 22.

The rejections of the claims under 35 U.S.C. §112, first paragraph, are believed to be obviated in part by the amendment submitted above and are, in part, respectfully traversed.

Claims 17-21 and 27-30 have been canceled.

At the outset, Applicants submit herewith a copy of the Federal Circuit's recent decision *Enzo Biochem, Inc. v. Gen-Probe Incorporated* (hereinafter referred to as "*Enzo*"),

decided April 2, 2002.

In *Enzo*, the court reaffirmed its earlier decision in *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406, that the written description of genetic material may be satisfied “by structure, formula, chemical name, or physical properties.”

The present application provides a detailed description of a raffinose synthase obtained from cucumber, which is a dicotyledonous plant, and the DNA encoding the raffinose synthase. The specification provides an explicit description of the raffinose synthase in terms of physical and chemical properties at, for example, pages 8 and 9. These properties include:

- (1) action and substrate specificity,
- (2) optimum pH;
- (3) optimum temperature,
- (4) molecular weight, and
- (5) compounds which provide for inhibition of the raffinose synthase.

Claim 13 specifies an isolated DNA encoding a raffinose synthase which is explicitly described in terms of physical and chemical properties. Clearly, Claim 13, and claims dependent thereon, satisfy the requirements for written description set forth by the Federal Circuit.

Claim 15 recites an isolated DNA encoding a raffinose synthase, where the DNA is hybridizable under stringent conditions to a DNA comprising nucleotide numbers 56 to 2407 of SEQ ID NO: 4. Applicants note that the DNA described with respect to Claim 13 above falls within the scope of Claim 15. Therefore, the fact that the raffinose synthase is described in such detail with respect to its physical and chemical properties, as described above, means that Claim 15 satisfies the written description requirement for the same reasons as Claim 13

described above. In addition, Applicants respectfully submit that the description of a DNA as hybridizing to a sequence under stringent conditions is, in fact, a description of the DNA's physical properties.

Claim 22 recites an isolated DNA encoding a raffinose synthase, wherein the DNA is obtained from a dicotyledonous plant. The DNA described in detail in the present specification was obtained from cucumber, which is a dicotyledonous plant. Since the sequence of that DNA is described in the present application, Claim 22, and claims dependent thereon, satisfy the requirements for written description set forth by the Federal Circuit.

Based on the foregoing, the claims satisfy the written description requirement of 35 U.S.C. §112, first paragraph. Accordingly, withdrawal of this ground of rejection is respectfully requested.

The obviousness-type double patenting rejection over U.S. 6,166,292 is obviated by the Terminal Disclaimer submitted herewith. Accordingly, withdrawal of this ground of rejection is respectfully requested.

Regarding the claim for priority, Applicants note that a certified copy of the Japanese priority application was filed in the parent application.